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EXAMINER

STARKS, WILBERT L

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DIEGO KLABJAN

Appeal 2016-005925
Application 13/369,855
Technology Center 2100

Before ERIC S. FRAHM, JENNIFER L. McKEOWN, and
STEVEN M. AMUNDSON, *Administrative Patent Judges*.

FRAHM, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is a decision on appeal under 35 U.S.C. § 134(a) of the Examiner's Final Rejection of claims 1–11 and 14–20 of the pending claims on appeal. Claim 12 has been canceled. Claims 13 and 21 have been indicated as being allowable (Final Act. 27; Ans. 27). We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

CLAIMED SUBJECT MATTER

Independent Claims 1 and 14 are exemplary of Appellant's disclosed invention, and are reproduced below with emphases added to disputed portions of the claims:¹

1. A method to generate a deployment plan for one or more electric vehicle charging stations, the method comprising:

gathering data for a specified geographic area, the gathered data including data regarding daily trips by a modeled driver from an origin to a destination in the specified geographic area;

forecasting a demand for electric vehicles for the specified geographic area;

modeling driving patterns in the specified area using the gathered data;

improving a charging infrastructure model based on the driving pattern and demand forecast information for the specified geographic area; and

¹ Remaining independent claim 8 contains limitations commensurate in scope with claim 1, and recites a computer readable storage medium having computer program code for execution by a processor to implement a system including an optimizer to provide a deployment strategy using a computation of a combination of the same four elements at issue in claim 1. Therefore, we decide the outcome of claim 8 on the same basis as claim 1.

generating and providing a recommendation regarding an electric vehicle charging infrastructure and deployment strategy for the specified geographic area based on the improved charging infrastructure model, the recommendation including street address location recommendations for one or more electric vehicle charging stations in the specified geographic area *based on computation of a combination of i) a number of electric vehicle charging stations to be deployed in the specified geographic area, ii) a set of potential charging station sites, iii) average traffic of a nearest arterial road to each of the set of potential charging station sites, and iv) a distance of the nearest arterial road to each of the set of potential charging stations sites, evaluated with respect to a decision variable.*

14. A method of forecasting electric vehicle usage in a defined geographic area, the method comprising;

using an adoption forecasting model to forecast an electric vehicle allocation at a *national level*;

determining a forecast for an electric vehicle allocation at a *state level* using the electric vehicle allocation forecast at the national level and one or more factors; and

forecasting an electric vehicle allocation at a *zip code level* based on the electric vehicle allocation at the state level and the one or more factors including driving pattern information within the zip code, maximum electric vehicle driving range, and charging ability of an electric vehicle charging station.

REFERENCES AND REJECTIONS ON APPEAL

We have reviewed Appellant's arguments in the Appeal Brief (App. Br. 7–16) and the Reply Brief (Reply Br. 2–7) that the Examiner's rejections of (i) claims 1–11, 14, and 16 under 35 U.S.C. § 103(a) as being unpatentable over Andy Ip et. al., *Optimization for Allocating BEV*

Recharging Stations in Urban Areas by Using Hierarchical Clustering,
ADVANCED INFORMATION MANAGEMENT AND SERVICE (IMS) 6TH
INTERNATIONAL CONFERENCE held on Nov. 30–Dec. 30, pp. 460–65
(2010)(hereinafter, “Ip”) and Pierrick Tranouez et. al., A MULTIAGENT
URBAN TRAFFIC SIMULATION PART I: DEALING WITH THE ORDINARY, ICCSA
2009, pp. 1–5 (2009) (hereinafter, “Tranouez”) (Final Act. 2–26; Ans. 2–
25); and (ii) claim 15 as being unpatentable over Ip, Tranouez, and Maik
Schneider et. al., *Innovation Process ‘Fuel Cell Vehicle’: What Strategy
Promises To Be Most Successful?*, 9TH INTERNATIONAL CONFERENCE OF THE
SOCIETY OF COMPUTATIONAL ECONOMICS COMPUTING IN ECONOMICS AND
FINANCE held in Seattle, USA, (July 2003) (hereinafter, “Schneider”) (Final
Act. 26–27; Ans. 26–27) are in error, and the Examiner’s response to
Appellant’s arguments in the Appeal Brief (Ans. 3–6).²

ANALYSIS

At the outset, we agree with Appellant (App. Br. 7–9) that a proper
interpretation of independent claims 1 and 8 requires generating and
providing a recommendation regarding an electric vehicle charging
infrastructure and deployment strategy for a specified geographic area based

² We note the Examiner mistakenly states in the heading of the rejection that claim 15 is rejected over Ip and Tranouez (Final Act. 2; Ans. 2). This is evident from (i) the failure of the Examiner to discuss/address the merits of claim 15 in the rejection over Ip and Tranouez (*see* Final Act. 3–7; Ans. 3–7); and (ii) the fact that claim 15 is otherwise rejected over the combination of Ip, Tranouez, and Schneider where the merits are discussed/addressed (Final Act. 26–27; Ans. 26–27). We consider this harmless error, and treat the rejection of claim 15 as including Schneider in the combination. Accordingly, we consider claim 1–11, 14, and 16 to stand rejected under 35 U.S.C. §103(a) as being unpatentable over Ip and Tranouez.

on computation of a combination of all four elements listed in the claims. While the Examiner initially finds that Ip teaches or suggests only two of the computation elements (the first two) found at the end of claims 1 and 8 (Final Act. 7 and 15; Ans. 7 and 15), the Examiner, in the Answer, then responds that Ip teaches the remaining two computation elements (Ans. 28–31). We find that the Examiner has not sufficiently shown that the applied references, and Ip in particular, meet these last two listed computation elements.

The Examiner’s reliance upon the statement at page 462 of Ip (“any information about the location that is related to the demands in the allocation problems”) as suggesting the use of one or more of the four recited elements for computation in claims 1 and 8 is conclusory. Despite the Examiner’s assertion that “the prior art anticipates the use of each of the four factors” (Ans. 28), the Examiner does not demonstrate that Ip discloses any operation based on “the nearest arterial road” as provided by the last two elements found in claims 1 and 8 (elements (iii) and (iv)). *See generally* Ans. 29–30. Finally, even if we were to agree with the Examiner that the Specification fails to define “arterial road” (Ans. 30), one of ordinary skill in the art would (i) understand the plain and ordinary meaning of “arterial road” to be a main road (as opposed to a small, dead end, or road leading to a cul-de-sac), and (ii) therefore understand that a “road” (as disclosed by Ip) is not the equivalent of an “arterial road.”

Although we agree with the Examiner that Ip teaches an electric vehicle recharging station locator algorithm, and Tranouez teaches a driving model, the Examiner has not rationally articulated how/why one of ordinary

skill in the art at the time of Appellant's invention would use the driving model of Tranouez to modify the computations of Ip and arrive at the method and system for generating a deployment plan for electric vehicle charging stations as recited in claims 1 and 8. *See, e.g.*, Final Act. 3 (concluding, without articulating sufficient reasoning, that "[i]t would have been obvious for one of ordinary skill in the art to substitute the modeled driver in Tranouez, et al. for the unmodeled driver in Ip, et al. because it helps to account for driver actions.").

With regard to remaining independent claim 14, we also agree with Appellant's contentions (App. Br. 15–16) that the combination, and specifically Ip, fails to teach or suggest forecasting an electric vehicle allocation "at a zip code level" based on forecasts taken at the "state level" and the "national level."

Based on the foregoing, we concur with Appellant's assertions (*see* App. Br. 7–16; Reply Br. 3–7) that the Examiner has not properly established factual determinations and articulated reasoning with a rational underpinning to support the legal conclusion of obviousness for independent claims 1, 8, and 14, resulting in a failure to establish a *prima facie* of obviousness.

Accordingly, we do not sustain the Examiner's rejection of independent claims 1, 8, and 14, as well as corresponding dependent claims 2–7, 9–11, and 15–20 depending respectively therefrom.

CONCLUSION

The Examiner erred in rejecting (i) claims 1–11, 14, and 16–20 under 35 U.S.C. § 103(a) as being unpatentable over the base combination of Ip

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and Tranouez; and (ii) claim 15 over the base combination of Ip and Tranouez, further taken with Schneider.

DECISION

The Examiner's rejections of claims 1–11 and 14–20 are reversed.

REVERSED